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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,338

11/14/2006

Masashi Miwa

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OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER

CHAU, LISA N

ART UNIT

PAPER NUMBER

1785

NOTIFICATION DATE

DELIVERY MODE

10/14/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com
jarmstrong@oliff.com

Office Action Summary	Application No. 10/594,338	Applicant(s) MIWA ET AL.	
	Examiner LISA CHAU	Art Unit 1785	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 52,54,55,58-102,104,106,108 and 110-136 is/are pending in the application.
- 5a) Of the above claim(s) 54,55,62-102,104,106,108 and 110-135 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 52,58-61 and 136 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges canceled Claims 1-51, 53, 56, 57, 103, 105, 107, and 109, withdrawn Claims 54, 55, 62-102, 104, 106, 108, and 110-135, amended Claim 52 in the response filed on 7/5/11.

Response to Arguments

2. Applicant's arguments with respect to claims 52, 58-61, and 136 have been considered but are moot in view of the new ground(s) of rejection.

Examiner's Note

3. Examiner notes that the term "substantially" is often used in conjunction with another term to describe a particular characteristic of the claimed invention. It is a broad term. In re Nehrenberg, 280 F.2d 161, 126 USPQ 38/3 (CCPA 1960). Examiner interprets the second layer in Savich et al. or Hasegawa et al. to be substantially free of rare earth because the term, substantially, does not constitute an absolute zero percentage of having a rare-earth element in that layer.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 52, 58-61, and 136 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/02337 ("Savich et al.") provided in the IDS.

Savich et al. teaches a rare-earth magnet comprising a magnetic body containing a rare-earth Nd element, Fe, and Co, and a protective layer formed on a surface of the magnetic body. The protective layer contains oxygen and elements derived from the magnet body and the protective layer has a first layer covering the magnet body and containing a rare-earth element Nd, Fe, oxygen, and Co, and a second layer containing substantially no rare-earth element and containing Fe, oxygen, and Co. Savich et al. further teaches its protective layer (which includes the first and second layers) to have a total thickness of 10 microns (Abstract, Page 11: Lines 10-11, Page 19: Lines 14-18, and Claims 2, 9, and 10).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 52, 58-61, and 136 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5876518 ("Hasegawa et al.") in view of JP 4328804 ("Tokuhara") provided in the IDS.

With regards to Claims 52, 59, 60, and 136, Hasegawa et al. teaches a rare-earth magnet comprising a Nd-Fe-Co-B magnet body containing Nd rare-earth element and a protective layer that contains oxygen and an element derived from the magnet

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body (Abstract, Col. 6: Lines 43-49, Col. 7: Lines 11-14, 50-54, and Col. 8: Lines 5-7).

The protective layer comprises a first layer (rare earth element-rich layer) covering the magnet body and containing the neodymium rare-earth element and a second layer (corrosion-resistant film layer) covering the first layer (rare earth element-rich layer) and containing oxygen, Co, and no rare-earth element (Col. 2: Lines 65 bridging to Col. 3: Lines 6, Col. 6: Lines 18-25, Col. 7: Lines 50-54, and Col. 8: Lines 4-8).

Hasegawa et al. does not specifically teach its first layer containing Fe, Co, and oxygen and its second layer containing Fe.

Examiner notes that Applicants' protective layer is formed by heat treating the magnet body. Thus, the elements derived in the Nd-Fe-Co-B magnet body will generate/form the claimed protective layer. Oxygen is formed in the protective layer due to having an oxidizing atmosphere containing oxidizing gas during the heat treatment ([0092]-[0115]).

Hasegawa et al. teaches that one of its protective layers is created by heat treating its Nd-Fe-Co-B magnet body to generate a layer richer in rare earth elements than the main phase (first protective layer) (Col. 8: Lines 4-25). Due to Hasegawa et al.'s magnet body being formed of Nd-Fe-Co-B and performing substantially the same heat treatment as Applicants to form its protective layer, some of the elements of Fe and Co in the magnet body will intrinsically be present in the element rich layer (first layer), albeit in very small amount due to the element rich layer (first layer) containing at least 80 weight % or more.

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Tokuhara teaches a rare-earth magnet comprising a Fe-B-R magnet body wherein the surface of the body is covered by a Fe oxide and an outermost surface is covered by another Fe oxide layer (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include Fe oxide in Hasegawa et al.'s first layer (rare earth element-rich layer) and Fe into the second layer (corrosion-resistant film) to obtain a corrosion-proof permanent magnet (Abstract).

Furthermore, both Hasegawa et al. and Tokuhara outer layers are functional equivalent to each other. That is, the layers are anti-corrosive in order to protect the Fe-B-R rare-earth magnet body (Please see Abstracts of Hasegawa et al. and Tokuhara). Therefore, one of ordinary skill in the art would envisage adding Fe and/or Fe oxide, as demonstrated in Tokuhara, in Hasegawa et al.'s first and second layers in view of functional equivalence of these materials and to obtain a desirable permanent magnet.

With regards to Claim 58, while Hasegawa et al. teaches the rare-earth element in the first layer (rare earth element-rich layer) are derived from the magnet body (Col. 8: Lines 4-11), it is silent on the teachings on the other elements in the protective layer being derived from the magnet body.

However, product-by-process claims are limited by and defined by the process and determination of patentability is based on the product itself. Regardless on how the elements in the protective layer are derived from, Hasegawa et al. in view of Tokuhara have the same materials present for each layer as claimed.

With regards to Claims 61, Hasegawa et al. meets the total thickness limitation of its first and second layers as claimed (Col. 8: Lines 1-3 and Claim 3).

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8. Claims 52, 58-61, and 136 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5876518 ("Hasegawa et al."), in view of JP 4328804 ("Tokuhara"), and further in view of WO 99/02337 ("Savich et al.").

With regards to Claims 52, 59, 60, and 136, Hasegawa et al. teaches a rare-earth magnet comprising a Nd-Fe-Co-B magnet body containing Nd rare-earth element and a protective layer that contains oxygen and an element derived from the magnet body (Col. 7: Lines 11-14, 50-54 and Col. 8: Lines 5-7). The protective layer comprises a first layer (rare earth element-rich layer) covering the magnet body and containing the neodymium rare-earth element and a second layer (corrosion-resistant film layer) covering the first layer (rare earth element-rich layer) and containing oxygen and no rare-earth element (Col. 2: Lines 65 bridging to Col. 3: Lines 6, Col. 6: Lines 18-25, Col. 7: Lines 50-54, and Col. 8: Lines 4-8).

Hasegawa et al. does not specifically disclose its first layer containing Fe, Co, and oxygen and its second layer containing Fe.

Tokuhara teaches a rare-earth magnet comprising a Fe-B-R magnet body wherein the surface of the body is covered by a Fe oxide and an outermost surface is covered by another Fe oxide layer (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include Fe oxide in Hasegawa et al.'s first layer (rare earth element-rich layer) and Fe into the second layer (corrosion-resistant film) to obtain a corrosion-proof permanent magnet (Abstract).

Furthermore, both Hasegawa et al. and Tokuhara outer layers are functional equivalent to each other. That is, the layers are anti-corrosive in order to protect the Fe-

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B-R rare-earth magnet body (Please see Abstracts of Hasegawa et al. and Tokuhara). Therefore, one of ordinary skill in the art would envisage adding Fe and/or Fe oxide, as demonstrated in Tokuhara, in Hasegawa et al.'s first and second layers in view of functional equivalence of these materials and to obtain a desirable permanent magnet.

Savich et al. teaches a rare-earth magnet comprising a Nd-Fe-Co-B magnet body and a protective layer comprising a first layer of rare earth element, Fe, and Co and a second layer of Fe and Co. Savich et al. further teaches its protective layer may contain oxides (Abstract, Page 11: Lines 10-13, and Claims 2, 9, and 10). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the materials used in Savich into Hasegawa et al. first and second protective layers in order to obtain a protective film to stand well against various mechanical effects such as scratching without detriment to its protective properties against corrosion and oxidation (Page 11: Lines 11-13).

With regards to Claim 58, while Hasegawa et al. teaches the rare-earth element in the first layer (rare earth element-rich layer) are derived from the magnet body (Col. 8: Lines 4-11), it is silent on the teachings on the other elements in the protective layer being derived from the magnet body.

However, product-by-process claims are limited by and defined by the process and determination of patentability is based on the product itself. Regardless on how the elements in the protective layer are derived from, Hasegawa et al. in view of Tokuhara have the same materials present for each layer as claimed.

With regards to Claims 61, Hasegawa et al. meets the total thickness limitation of its first and second layers as claimed (Col. 8: Lines 1-3 and Claim 3).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LISA CHAU whose telephone number is (571)270-5496. The examiner can normally be reached on Monday-Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on (571) 272 - 1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LC/
Lisa Chau

/Holly Rickman/
Primary Examiner, Art Unit 1785